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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/586,355	07/17/2006	Yoshihiro Kanda	064766-0019	3030

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EXAMINER

AGUSTIN, PETER VINCENT

ART UNIT	PAPER NUMBER
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2627

MAIL DATE	DELIVERY MODE
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04/29/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/586,355	Applicant(s) KANDA, YOSHIHIRO	
	Examiner Peter Vincent Agustin	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) 6 and 8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4,5 and 7 is/are rejected.
- 7) ☒ Claim(s) 2,3 and 9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 October 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This application is a national stage entry (371) of PCT/JP05/00339, filed on January 14, 2005.
2. Claims 1-9 are currently pending, with claims 6 & 8 withdrawn from consideration, and claims 1-5, 7 & 9 being examined.

Drawings

3. Replacement drawings for Figures 8-11 were received on October 29, 2008. These drawings are acceptable.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 4, 5 & 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Dekker et al. (US 6,683,833).

In regard to claim 1, the admitted prior art discloses a repetitive control device (Figure 8) comprising: an adder (2) to which a compensated signal (S3) is inputted; a feedback signal system (6, 7 & 10) for sequentially updating and storing an output signal from the adder, and outputting the signal to the adder; said feedback signal system comprising, a filter (6), a memory (7) which stores signal information for one rotation of a disc into divided plural memory areas of the memory (see Figure 9 and page 3, paragraph 3), a gain element (10) which multiplies an output from the filter by a value (β) not larger than 1 (page 3, last paragraph), and inputs the

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result to the adder (2), and said memory being operated using a clock signal (output of 8 & 9) that is equal to an operation frequency of a driving signal (interpreted as “spindle FG signal” recited in page 3, second to the last paragraph), or a divided frequency thereof (see page 3, second to the last paragraph: “clock signal having a frequency that is phase-synchronized with an inputted spindle FG signal”).

In regard to claim 4, the admitted prior art discloses that said filter (6) includes a low-pass filter (page 3, lines 6-7).

In regard to claim 5, the admitted prior art discloses that said filter (6) is a band-pass filter comprising a low-pass filter and a high-pass filter (page 3, lines 6-10).

However, the admitted prior art discloses that the filter and the memory are separately provided, i.e., the admitted prior art does not disclose: in regard to claim 1, “a filter which has, as a delay element, a memory”. Furthermore, the admitted prior art discloses that the memory is operated using a clock signal, i.e., the admitted prior art does not disclose: in regard to claim 1, that said filter is operated using a clock signal. Furthermore, the admitted prior art does not disclose: in regard to claims 4 & 5, that said filter uses said memory as a delay element for the low-pass filter.

Dekker et al. disclose: in regard to claim 1, a filter (Figure 2, element 25) which has a memory (36) as a delay element (see Figure 4).

It would have been obvious to one of ordinary skill in the art at the time of invention to have integrated the filter and memory of the admitted prior art as suggested by Dekker et al., the motivation being to provide a control system which is insensitive to variations in angular velocity and which yet has a relatively high stability (column 1, lines 53-57). It should be noted

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that this combination of references automatically results with a filter that uses the memory as a delay element for a low-pass filter, as recited in claims 4 & 5.

In regard to claim 7, the admitted prior art discloses an optical disc device (Figure 8) performing recording or playback of an optical disc, which is equipped with a repetitive control device as defined in claim 1.

Allowable Subject Matter

6. Claims 2, 3 & 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter:

In regard to claims 2 & 3, see the reasons noted in the previous Office action.

In regard to claim 9, the prior art of record alone or in combination fails to teach or suggest: a repetitive control device comprising: an adder to which a compensated signal is inputted; a feedback signal system for sequentially updating and storing an output signal from the adder, and outputting the signal to the adder; said feedback signal system comprising, a filter which has, as a delay element, a memory which stores signal information for one rotation of a disc into divided plural memory areas of the memory, a gain element which multiplies an output from the filter by a value not larger than 1, and inputs the result to the adder, and said filter being operated using a clock signal that is equal to an operation frequency of a driving signal, or a divided frequency thereof, wherein the driving signal corresponds to the compensated signal.

Response to Arguments

8. Applicant's arguments filed on October 29, 2009 have been fully considered but they are not persuasive.

(a) In response to applicant's argument on page 7, paragraph 3 that there is no teaching of "said filter being operated using a clock signal that is equal to an operation frequency of a driving signal, or a divided frequency thereof", note that the claimed "a driving signal" is interpreted by the examiner as corresponding to the "spindle FG signal" recited in page 3, second to the last paragraph, which section also recites a "clock signal having a frequency that is phase-synchronized with an inputted spindle FG signal". As noted, this clock signal is outputted and used as the timing signal for the apparatus of Figures 8 & 9, which is consistent with what is claimed. It should be noted that in newly-added claim 9, the claimed "driving signal" is further limited as corresponding to "the compensated signal" (inputted to an adder, as claimed), which therefore distinguishes claim 9 over the teachings of the admitted prior art. This is in contrast to claim 1, which merely recites "a driving signal".

(b) In response to applicant's reference to the specification, pointing to the description that "the operation frequency is not equal to the memory address switching frequency but equal to the operation frequency of the driving signal or a division frequency thereof", as noted in item (a) above, the claimed "a driving signal" is interpreted as the "spindle FG signal" recited in the background.

(c) In response to applicant's argument on page 7-8 regarding the Dekker reference, as noted in items (a) and (b) above, the admitted prior art discloses the argued limitations.

(d) In response to applicant's argument on page 9 regarding the dependent claims, as noted in items (a) through (c) above, all limitations of the independent claim are disclosed.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Vincent Agustin whose telephone number is (571) 272-7567. The examiner can normally be reached on Monday-Thursday 8:30 AM-6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, A. L. Wellington can be reached on (571) 272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Peter Vincent Agustin/
Primary Examiner, Art Unit 2627